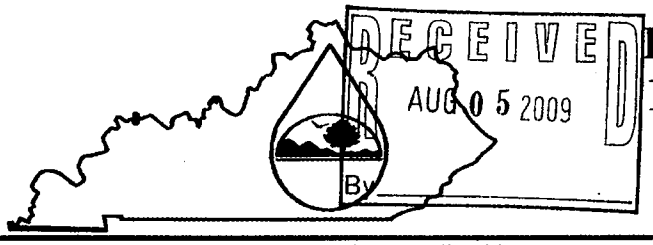
# KPDES FORM HQAA




## Kentucky Pollutant Discharge Elimination System (KPDES)

### High Quality Water Alternative Analysis

The Antidegradation Implementation Procedures outlined in 401 KAR 5:030, Section 1(3)(b)5 allows an applicant who does not accept the effluent limitations required by subparagraphs 2 and 3 of 5:030, Section 1(2)(b) to demonstrate to the satisfaction of the Environmental and Public Protection Cabinet that no technologically or economically feasible alternatives exist and that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the water is located. The approval of a POTW's regional facility plan pursuant to 401 KAR 5:006 shall demonstrate compliance with the alternatives analysis and socioeconomic demonstration for a regional facility. This demonstration shall also include this completed form and copies of any engineering reports, economic feasibility studies, or other supporting documentation

**I. Permit Information**

| | | | |
|---|---|---|---|
| **Facility Name:** | Sandlick Coal Co., Inc. | **KPDES NO.:** | KYG045406 |
| **Address:** | P.O. Box M | **County:** | Harlan |
| **City, State, Zip Code:** | St. Charles, Virginia 24282 | **Receiving Water Name:** | Foresters Cr. & Puckett Cr. |

**II. Alternatives Analysis - For each alternative below, discuss what options were considered and state why these options were not considered feasible.**

See attachment 1.

2. **Use of other discharge locations.** Indicate what other discharge locations have been evaluated and the reasons why these locations are not feasible.

**See attachment 2.**

## II. Alternatives Analysis - continued

3. See attachment 3.

4. **Alternative process or treatment options.**

**See attachment 4.**

## II. Alternatives Analysis - continued

5. **On-site or subsurface disposal options.**

**See attachment #5.**

6. **Evaluation of any other alternatives to lowering water quality.** Describe any other alternatives that were evaluated and provide the reasons why these alternatives were not feasible.

**See attachment #6.**

## III. Socioeconomic Demonstration

1. State the positive and beneficial effects of this facility on the existing environment or a public health problem

**See attachment 1.**

2. Describe this facility's effect on the employment of the area

**See attachment 2.**

3. Describe how this facility will increase or avoid the decrease of area employment.

**See attachment 3.**

4. Describe the industrial or commercial benefits to the community, including the creation of jobs, the raising of additional revenues, the creation of new or additional tax bases.

**See attachment 4.**

5. Describe any other economic or social benefits to the community.

**See attachment 5.**

## III. Socioeconomic Demonstration - continued

| | Yes | No |
|---|---|---|
| 6. Will this project be likely to change median household income in the county? | ☐ | ☒ |
| 7. Will this project likely change the market value of taxable property in the county? | ☐ | ☒ |
| 8. Will this project increase or decrease revenues in the county? | ☒ | ☐ |
| 9. Will any public buildings be affected by this system? | ☐ | ☒ |

10. How many households will be *economically* or *socially* impacted by this project? **20**

11. How will those households be *economically* or *socially* impacted? (For example, through creation of jobs, educational opportunities, or other social or economic benefits.)

Additional jobs, better wages.

See attachment 11.

| | Yes | No |
|---|---|---|
| 12. Does this project replace any other methods of sewage treatment to existing facilities? (If so describe how) | ☐ | ☒ |

See attachment 12.

| | Yes | No |
|---|---|---|
| 13. Does this project treat any existing sources of pollution more effectively? (If so describe how.) | ☒ | ☐ |

See attachment 13.

## III. Socioeconomic Demonstration - continued

| | Yes | No |
|---|---|---|
| 14. Does this project eliminate any other sources of discharge or pollutants? (If so describe how.) | ☒ | ☐ |

See attachment 14.

15. How will the increase in production levels positively affect the socioeconomic condition of the area?

See attachment #15.

16. How will the increase in operational efficiency positively affect the socioeconomic condition of the area?

See attachment 16.

**IV Certification:** I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

| | | | |
|---|---|---|---|
| **Name and Title:** | **Aubra P. Dean, President** | **Telephone No.:** | 606 –664-7770 |
| **Signature:** | Aubra P. Dean | **Date:** | **8-3-09** |

## KPDES FORM HQAA – ATTACHMENTS

### II. Alternative Analysis

1. **Discharge to other treatment facilities:**

Alternate treatment works have been investigated. The nearest water treatment plant is located at Wallins, Ky., which is approximately 8 miles away from this proposed site. At $20.00 per foot to construct a line to convey the discharge from this site to the treatment plant would be $528,000.00. Another $100,000 would be required to construct a pumping station that would force feed the material from the mine area to the treating facility. This facility treats sanitary waste, not settable solids.

Another method to get water to the treatment plant would be trucking. This method is not feasible due to the large number of trucks that would be required and the cost. Approximately 10 trucks would be needed to convey the water. Each truck will cost $100,000, plus an additional $100,000 for a driver, fuel, maintenance, and insurance per vehicle. 3 additional trucks will be required as substitute in case of breakdowns. A total of 13 trucks times $200,000 each will make annually a total cost of $2,600,000. The cost is prohibitive when considering trucking water to a treatment facility.

A sediment pond would require being constructed at the Wallins location to remove silt from the discharge. Construction and maintenance of this structure would be about $50,000. The total cost to collect, treat, and convey this water from the job site to the treatment plant would be approximately $3,278,000.

2. **Use of other discharge location:**

Foresters Creek and Puckett Creek will directly receive the discharge from this operation. To collect water from the Foresters Creek and Puckett Creek watersheds would require an additional $150,000 for each watershed. This cost would be in addition to the $3,278,000.00, mentioned above. There are no alternatives to this situation, since all drainage will be received by Foresters Creek and Puckett Creek, both watersheds drain into the Cumberland River. Foresters Creek, Puckett Creek, and the Cumberland River are not prime waters. The waters are contaminated with waste and garbage from dwellings, household appliances, junked automobiles parts, and raw sewage from straight pipe conveyances.

3. **Water reuse or recycle:**

Water could be used as a dust suppressor at the mining site and during re-vegetation of the reclaimed mining areas. This use will be a minimum compared to the total drainage. The total drainage area for Foresters Creek is approximately 1,200 acres, Puckett Creek is approximately 1,700. Foresters Creek's discharge is approximately 2,000

gallons/minute for 120,000 gallons per hour. Puckett Creek's discharge is approximately 2,500 gals/minute for 150,000 gallons per hour.

A portion of the water can be used for dust suppression and re-vegetation at the mining site. The amount would be minimal. During dry times, the haul roads and access roads are watered every working hour during the day, which is 10 times. The water truck carries 5,000 gallons per load, this equates to 50,000 gallons per day. During re-seeding the permittee will sow ten loads of seed per day. The hydroseeder carries 2,500 gallons per load. This equates to 25,000 gallons per day.

4. **Alternate process or treatment options:**

Construction of 2 small package plant at the site would cost approximately $75,000 each. Additional costs would be incurred for maintenance and additional personnel to operate the facilities. Hiring 3 employees at each site for a total of 6 would add $300,000 cost yearly. To dismantle and remove the structures in order to get a bond release could be an additional $100,000 expense. Sediment from a large disturbance of this type cannot be controlled by hay bales or sediment fences and meet the effluent limits as established by regulations. During a hard rain event, storm water would escape around the hay bales and sediment fences and drain directly into the receiving stream.

5. **On-site or subsurface disposal options:**

Sediment ponds are the only feasible method to store the on-site discharge. To retain all of the water without a discharge, will require the construction of enormous ponds. The ponds would be constructed in streams, therefore the disturbance would cause unneeded and reparable environmental harm. To construct ponds the size that never discharge, would nearly be impossible. If it were possible, the cost would be a deterent.

The use of septic tanks to store the water is another choice. The sheer number of septic tanks required and the total cost for this method defeats this proposal. Abandoned mine works could be entertained as a storage area for the water. If an operator should choose this method of storage, several problems could occur. There is the potential for a "blow-out". This occurs when the strata between old works and outside surface area is not strong enough to hold the water. When water escapes in this manner, there is a potential for severe damage, even loss of life. The financial loss, if this should happen, would be enormous. There is also a potential of degrading the underlying aquifers and ground water.

6. **Evaluation of any other alternatives to lowering water quality:**

Other alternatives reviewed include reducing the standards for discharge or aborting the project:

By reducing the water quality limits, the operation would require cost increases and additional time spent. Much bigger in-stream ponds would need to be constructed. Enlarging or adding disturbances will have a negative environmental affect on the stream and could cost millions of dollars for construction and stream mitigation. Large amounts of water would need to be stored, creating a safety hazard to the public should structural failure occur. The cost of removing and reclaiming each sediment structure will be approximately $75,000. Larger ponds has the potential for extreme safety hazards. Should a pond break, releasing all of its content, homes and people would be in jeopardy.

Another option would be to abort the project altogether. Many negative affects to the area would occur if mining ceases. Two years of much needed coal production would be lost. Taxes paid by the Company and its employees will stop. Workers and businesses will suffer from lost wages of approximately $3,200,000. Approximately fifty workers and their jobs will disappear. Severance taxes of approximately $1,200,000, paid to the Commonwealth of Kentucky will cease. A portion of the severance tax that filters back to the County will halt.

**1II. Socioeconomic Demonstration**

1. **State the positive and beneficial effects of this facility on existing environmental or public health problem:**

The mining includes areas the have been logged and mined prior to 1977. There will be sediment control placed throughout the area where none now exists. This site will control the surface water discharge. Approximately 100 acres of prior logging and 100 acres of pre-law mining in the entire watershed will have sediment control, compared to no sediment control presently. The pre-law mining areas have an exposed highwall. Native vegetation occupies the prior disturbances.

The movement of sediment is unabated in this area. The mining operation will construct and maintain ponds for sediment control. Each pond will control existing conditions and reduce current environmental problems.

2. **Describe the facility's effect on the employment of the area:**

This operation will provide employment for fifty people. These positions pay higher wages than comparable industries in the region. The average weekly salary per employee will be $770.00. The average salary per employee for other industries in the region is approximately $410.00. This facility will improve the employment for this area.

3. **Describe how this facility will increase or avoid the decrease of area employment:** During these depressed economic times, Harlan County has an unemployment rate of approximately 10%. The economy for Harlan County is heavily dependent on the coal mining industry. The permitted area could provide coal production and employment for

1.0 year. Working this mine will assure employees of having increased job security and could provide an opportunity for hiring new workers. This mine will also aid the service industry, which furnishes materials, equipment, and engineering services. There could be an additional twenty-five full time employees required to carry out the duties of the service industry.

4. **Describe the industrial or Commercial Benefits to the Community:**

This area will increase the security for new hire's. It will provide personnel a chance to advance in pay and promotion opportunities. It will create new jobs and require more workers. The projected 1year of mining will add $2,000,000 dollars to the regions economy. The State of Kentucky and Harlan County will proportionately divide coal severance tax totaling $60,000 for 1 year, with the Commonwealth of Kentucky getting approximately 50% and Harlan County gets approximately 50%. These monies, accumulatively, will help Harlan County financially maintain its infrastructure and construct much needed new roads, parks, streets and aid in lowering the local property owners real estate taxes.

5. **Describe any other economic or social benefits to the community:**

Extending the existing fifty jobs in Harlan County for 1.0 year will create an annual payroll of $2,000,000. These wages will be approximately 1/3 higher than other industries pay throughout the County. These jobs will provide taxes that will contribute to the overall growth of the Towns and County of Harlan. These wages will aid in creating other non-coal related service jobs. Severance taxes collected can be utilized in improving roads, public schools, local governments, and other projects that may benefit the citizens of Harlan County.

11. **How will those households be economically or socially impacted by this project:**

Each worker will earn $770.00 per week, which is 1/3 higher than other industries pay in Harlan County. These wages will benefit the community and each family in a positive way. To have secure employment is also an asset to the region and each household. The quality of jobs and pay comparison this operation will bring adds to the financial stability of all people in this area.

12. **Does the project replace any other methods of sewage treatment to existing facilities:**

The nearest existing sewage treatment plant is approximately four miles away.

13. **Does this project treat any existing sources of pollution more effective:**

Logging disturbed approximately 100 acres and pre-law mining disturbed approximately 100 acres in the watershed. This proposed project will have sediment ponds in place as the primary structures to control any erosion or pollution that may

escape from the permitted area. The ponds are designed and constructed to allow settable solids to drop out before the waters are released into the receiving streams. Temporary sediment control such as straw bales and sediment fences will be installed at strategic locations such a gullies and diversion ditches. The ponds will provide sediment control for pre-law mined areas and prior logging where none exists presently.

14. **Does the project eliminate any other sources of discharge or pollution:**

Prior logging has disturbed approximately 100 acres and pre-law mining disturbed approximately 100 acres. Any drainage that flows through a previously logged area or a previously mined area will pass through the proposed sediment ponds.

15. **How will the increase in production levels positively affect the socioeconomic condition of the area:**

Increased production not only provides additional jobs, it also provides more tons of coal that our economy needs and increases the severance tax base for the Commonwealth of Kentucky and Harlan County. Each additional ton, Kentucky receives 4.5% of gross value. Increased production creates for the business sector, additional revenue to be spent by the workers and the Company.

16. **How will the increase in operational efficiency positively affect the socioeconomic condition of the area:**

As efficiency increases production costs decrease. This provides more money that's available for the Company to utilize in purchasing additional equipment or provide bonus incentives to the employees. When a worker's income increases his buying power enlarges, allowing him to buy a house, an automobile, or clothing.

As efficiency increases, the disturbed areas can be reclaimed faster. Faster reclamation means a vegetation cover can be established sooner, thus decreasing the total adverse environmental impact to the region.